

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A power transmitting fluid for use in a transmission having a steel-on-steel contact, comprising:

(a) a major amount of a base oil consisting essentially of mineral oil; and

(b) at least one thiadiazole or derivative thereof present in an amount sufficient to provide a low pulley coefficient of friction ranging from about 0.0758 to about 0.085 or greater ~~0.090~~ for steel-on-steel contact as measured by a Van Doorne push-belt CVT dynamometer test, wherein the thiadiazole is selected from (a) 2-hydrocarbyldithio-5-mercapto-1,3,4-thiadiazole, 2,5-bis-(~~hydrocarbyldithio~~ hydrocarbyldithio)-1,3,4-thiadiazole, and mixtures thereof; (b) 2-hydrocarbylthio-5-mercapto-1,3,4-thiadiazole; and (c) products from combining an oil soluble dispersant with 2,5-dimercapto-1,3,4-thiadiazole (DMTD); and (d) mixtures thereof,

wherein the fluid has improved steel-on-steel friction properties.

2. (Canceled)

3. (Currently Amended) The fluid of claim 1, wherein the hydrocarbyl of the thiadiazole ~~is substituted with~~ is selected from the group consisting of at least one linear, branched or cyclic saturated ~~or and~~ unsaturated hydrocarbyl groups ~~hydrocarbon group~~.

4. (Original) The fluid of claim 1, wherein the thiadiazole is present in an amount of from about 0.095 wt% to about 5 wt%.

5. (Original) The fluid of claim 1, wherein the thiadiazole is present in an amount of from about 0.3 wt% to about 0.5wt%.

6. (Original) The fluid of claim 1, wherein the transmission comprises one or more of a belt-type continuously variable transmission (CVT), chain-type CVT, and toroidal CVT.

7. (Original) The fluid of claim 1, wherein the improved steel-on-steel friction properties are improved relative to a fluid not comprising the cited amount of the thiadiazole.

8. (Canceled).

9. (Original) A continuously variable transmission lubricated with the fluid of claim 1.

10. (Original) A method of lubricating a transmission having steel-on-steel contact, comprising adding to, and operating in, the transmission a fluid as set forth in claim 1.

11. (Currently Amended) An additive composition for use in a transmission having a steel-on-steel contact, comprising at least one thiadiazole or derivative thereof present in an amount sufficient to provide a low pulley coefficient of friction ranging from about 0.0758 to about 0.085 or greater ~~0.090~~ for steel-on-steel contact as measured by a Van Doorne push-belt CVT dynamometer test, wherein the thiadiazole is selected from (a) 2-hydrocarbyldithio-5-mercapto-1,3,4-thiadiazole, 2,5-bis-(~~hydrocarbyldithio~~ hydrocarbyldithio)-1,3,4-thiadiazole, and mixtures thereof; (b) 2-hydrocarbylthio-5-mercapto-1,3,4-thiadiazole; and (c) products from combining an oil soluble dispersant with 2,5-dimercapto-1,3,4-thiadiazole (DMTD); and (d) mixtures thereof, wherein the fluid has improved steel-on-steel friction properties.

12. (Canceled).

13. (Original) The additive composition of claim 11, wherein the thiadiazole is present in an amount of from about 0.95 wt% to about 10 wt%.

14. (Original) The additive composition of claim 11, wherein the thiadiazole is present in an amount of from about 3 wt% to about 5 wt%.

15. (Original) The additive composition of claim 11, wherein the transmission comprises one or more of a belt-type continuously variable transmission (CVT), chain-type CVT, and toroidal CVT.

16. (Original) The additive composition of claim 11, wherein the improved steel-on-steel friction properties are improved relative to a fluid not comprising the cited amount of the thiadiazole.

17. (Original) A continuously variable transmission lubricated with the additive composition of claim 11.

18. (Original) A method of lubricating a transmission having steel-on-steel contact, comprising adding to, and operating in, the transmission a additive composition as set forth in claim 11.

19. (Currently Amended) A method of making a power transmitting fluid having steel-on-steel friction-improving capabilities, comprising adding to a major amount of a base oil consisting essentially of mineral oil, a thiadiazole in an amount sufficient to provide a low pulley coefficient of friction ranging from about 0.0758 to about 0.085 or greater ~~0.090~~ for steel-on-steel contact as measured by a Van Doorne push-belt CVT dynamometer test, wherein the thiadiazole is selected from (a) 2-hydrocarbyldithio-5-mercapto-1,3,4-thiadiazole, 2,5-bis-(~~hydrocarbyldithio~~ hydrocarbyldithio)-1,3,4-thiadiazole, and mixtures thereof; (b) 2-hydrocarbylthio-5-mercapto-1,3,4-thiadiazole; and (c) products from combining an oil soluble dispersant with 2,5-dimercapto-1,3,4-thiadiazole (DMTD); and (d) mixtures thereof.

20. (Canceled).

21. (Canceled)

22. (Canceled)

23. (Previously Presented) The power transmitting fluid of claim 1, wherein the at least one thiadiazole is present in an amount sufficient to provide a coefficient of friction of at least 0.085

for steel-on-steel contact.

24. (Canceled)

25. (Previously Presented) The additive composition of claim 11, wherein the at least one thiadiazole is present in an amount sufficient to provide a coefficient of friction of at least 0.085 for steel-on-steel contact.

26. (Currently Amended) A method for achieving a low pulley coefficient of friction ranging from about 0.0758 to about 0.085 or greater ~~0.090~~ for steel-on-steel contact as measured by a Van Doorne push-belt CVT dynamometer test with a lubricating oil by incorporating into the lubricating oil from about 0.3 to about 0.5 weight percent of at least one thiadiazole or derivative thereof, wherein the thiadiazole is selected from (a) 2-hydrocarbyldithio-5-mercapto-1,3,4-thiadiazole, 2,5-bis-(~~hydrocarbyldithio~~ hydrocarbyldithio)-1,3,4-thiadiazole, and mixtures thereof; (b) 2-hydrocarbylthio-5-mercapto-1,3,4-thiadiazole; and (c) products from combining an oil soluble dispersant with 2,5-dimercapto-1,3,4-thiadiazole (DMTD); and (d) mixtures thereof.

27. (Currently Amended) A method for providing a lubricant composition capable of achieving a low pulley coefficient of friction ranging from about 0.0758 to about 0.085 or greater ~~0.090~~ for steel-on-steel contact as measured by a Van Doorne push-belt CVT dynamometer test comprising combining with a major amount of a base oil consisting essentially of mineral oil, the additive composition of claim 11.

28. (Currently Amended) A method for lubricating a gear or transmission comprising:

contacting said gear or transmission with a lubricant composition wherein said lubricant composition has a low pulley coefficient of friction ranging from about 0.0758 to about 0.085 or greater ~~0.090~~ for steel-on-steel contact as measured by a Van Doorne push-belt CVT dynamometer test, wherein said lubricant composition comprises:

a major amount of a base oil consisting essentially of mineral oil; and

from about 0.3 to about 0.5 weight percent of at least one thiadiazole or derivative thereof ~~present in an amount sufficient~~ to provide said coefficient of friction, wherein the thiadiazole is selected from (a) 2-hydrocarbyldithio-5-mercapto-1,3,4-thiadiazole, 2,5-bis-(~~hydrocarbyldithio~~ hydrocarbyldithio)-1,3,4-thiadiazole, and mixtures thereof; (b) 2-hydrocarbylthio-5-mercapto-1,3,4-thiadiazole; and (c) products from combining an oil soluble dispersant with 2,5-dimercapto-1,3,4-thiadiazole (DMTD); and (d) mixtures thereof.